AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) A solid-state image pickup apparatus comprising:

an image pickup section including:

a color separating section including color filters assigned to three primary colors R (red), G (green) and B (blue) for separating colors of light incident from a desired scene, the color filters assigned to the color G being arranged in vertical stripes, the color filters assigned to the colors R and B being arranged diagonally with respect to the color filters assigned to the color G;

a plurality of photosensitive cells arranged bidimensionally in one-to-one correspondence to said color filters each for transforming light output from a particular color filter to a corresponding signal charge, each of said plurality of photosensitive cells being shifted in position by half a pitch from adjoining ones of said photosensitive cells;

a plurality of vertical transfer paths each comprising transfer elements arranged in a vertical direction for vertically transferring signal charges fed from adjoining ones of said plurality of photosensitive cells;

a horizontal transfer path perpendicular to said plurality of vertical transfer paths and comprising transfer elements arranged in a horizontal direction for transferring the

signal charges fed from said plurality of vertical transfer paths;

signal reading circuitry for shifting the signal charges from said plurality of photosensitive cells to said plurality of vertical transfer paths; and

charge sweeping circuitry for sweeping out needless ones of the signal charges stored in said plurality of photosensitive cells;

a mode selecting section for selecting, when an operation for reading the signal charges out of said image pickup section is represented by a mode, either one of an all pixel read mode for reading the signal charges from all of said plurality of photosensitive cells and a particular pixel read mode for reading only the signal charges representative of the color G;

a drive signal generating section for feeding horizontal and vertical drive signals to said image pickup section, and providing said horizontal drive signals with a period shorter in said particular pixel read mode than in said all pixel read mode; and

a controller for controlling said drive signal generating section in a particular manner in each of said all pixel read mode and said particular pixel read mode,

said mode selecting section generating a different phase of the horizontal drive signal selected from a plurality of signal levels in response to a horizontal timing signal fed from said drive signal generating section and a control signal fed from said

controller.

Claim 2 (Currently Amended) An apparatus in accordance with claim 1, wherein said color separating section has ~~any one of a G stripe pattern, a G stripe, RB checker pattern and a G stripe, RB full checker pattern in which the color G is arranged in stripes and~~ a full checker pattern in which the color G is arranged in a square lattice while the colors R and B each are diagonally arranged at opposite sides of the color G.

Claim 3 (Canceled).

Claim 4 (Currently Amended) An apparatus in accordance with claim ~~3~~8, wherein said second horizontal drive signals have a period which is substantially equal to one half of a period of said first horizontal drive signals.

Claim 5 (Currently Amended) A signal reading method for a solid-state image pickup apparatus including an image pickup section including a color separating section having color filters assigned to three primary colors R, G and B for separating colors of light incident from a desired scene, the color filters assigned to the color G being arranged in vertical stripes, the color filters assigned to the colors R and B being arranged diagonally with

respect to the color filters assigned to the color G, a plurality of photosensitive cells arranged bidimensionally in one-to-one correspondence to said color filters each for transforming light output from a particular color filter to a corresponding signal charge, each of the plurality of photosensitive cells being shifted in position by half a pitch from adjoining ones of the photosensitive cells, and charge sweeping circuitry for sweeping out needless ones of signal charges stored in said plurality of photosensitive cells, said image pickup section transferring the signal charges of said plurality of photosensitive cells in a vertical direction and then in a horizontal direction; said signal reading method comprising the steps of:

(a) selecting, when an operation for reading the signal charges out of said image pickup section is represented by a mode, either one of an all pixel read mode for reading the signal charges from all of said plurality of photosensitive cells and a particular pixel read mode for reading only the signal charges representative of the color G;

(b) generating drive signals for driving said image pickup section in accordance with said all pixel read mode or said particular pixel read mode selected thereby generating a different phase of a horizontal drive signal being generated in response to a control signal fed for said all pixel read mode or said particular pixel read mode selected;

(c) storing, in said particular pixel read mode, the signal charges derived from the color G in response to said drive signals while sweeping out the signal charges derived from the colors R and B;

(d) effecting a field shift of only the signal charges stored;

(e) vertically transferring the signal charges derived from the color G and subjected to the field shift; and

(f) horizontally transferring the signal charges vertically transferred at a period shorter than a period of time necessary for the signal charges to be read out in said all pixel read mode.

Claim 6 (Original) A method in accordance with claim 5, wherein step (b) comprises:

(g) generating first drive signals for storing, in said particular pixel read mode, the signal charges derived from the color G while sweeping out the signal charges derived from the colors R and B;

(h) generating second drive signals for effecting the field shift;

(i) generating third drive signals for vertically transferring the signal charges subjected to the field shift; and

(j) generating drive signals for horizontally transferring the signal charges vertically transferred at a period shorter than a period of time necessary for the signal charges to be read out in

said all pixel read mode.

Claim 7 (Canceled).

Claim 8 (New) A solid-state image pickup apparatus comprising:

an image pickup section including:

a color separating section including color filters assigned to three primary colors R (red), G (green) and B (blue) for separating colors of light incident from a desired scene, the color filters assigned to the color G being arranged in stripes;

a plurality of photosensitive cells arranged bidimensionally in one-to-one correspondence to said color filters each for transforming light output from a particular color filter to a corresponding signal charge;

a plurality of vertical transfer paths each comprising transfer elements arranged in a vertical direction for vertically transferring signal charges fed from adjoining ones of said plurality of photosensitive cells;

a horizontal transfer path perpendicular to said plurality of vertical transfer paths and comprising transfer elements arranged in a horizontal direction for transferring the signal charges fed from said plurality of vertical transfer paths;

signal reading circuitry for shifting the signal charges from said plurality of photosensitive cells to said plurality of

vertical transfer paths; and

charge sweeping circuitry for sweeping out needless ones of the signal charges stored in said plurality of photosensitive cells;

a mode selecting section for selecting, when an operation for reading the signal charges out of said image pickup section is represented by a mode, either one of an all pixel read mode for reading the signal charges from all of said plurality of photosensitive cells and a particular pixel read mode for reading only the signal charges representative of the color G;

a drive signal generating section for feeding horizontal and vertical drive signals to said image pickup section, and providing said horizontal drive signals with a period shorter in said particular pixel read mode than in said all pixel read mode; and

a controller for controlling said drive signal generating section in a particular manner in each of said all pixel read mode and said particular pixel read mode,

said mode selecting section generating a different phase of the horizontal drive signal selected from a plurality of signal levels in response to a horizontal timing signal fed from said drive signal generating section and a control signal fed from said controller;

each of said horizontal drive signals output from said drive signal generating section comprising:

first horizontal drive signals different in phase from each other and used as one unit in said all pixel read mode and equal in number to electrodes to which said drive signals are fed in said all pixel read mode; and

second horizontal drive signals different in phase from each other and used as one unit in said particular pixel read mode and two times greater in number than the electrodes used in said all pixel read mode.